

Econometrics
2017 /TRIMESTER IV
DEPARTMENT OF MANAGEMENT, BANGALORE CAMPUS
AMRITA VISHWA VIDYAPEETHAM (UNIVERSITY)

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Amalendu Jyotishi

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COURSE OBJECTIVE

Course content

Topics for this unit include a revision of basic statistical concepts, an introduction to business econometrics, the classical regression model, relaxing the assumptions of the classical linear regression model, model specification, forecasting, basic time series analysis, use of empirical examples to test hypotheses in economics and finance.

The goal of the Course

The goal of the course is to teach students the basic econometric skills. In particular through undertaking this unit, students gain knowledge and experience in data analysis, economic modeling and interpretation of analytical results. This unit may also lay the foundation for students to obtain more advanced training in econometrics.

Educational principles and attributes

In this course, you will be provided with the opportunity to:

- Critically evaluate and analyze economic problems;
- Engage in quantitative analysis of economic phenomenon;
- Develop competencies in understanding economic policies through project based approach;
- Demonstrate self-management and independent learning skills through the term paper

In this course, you will be encouraged and facilitated to develop the ability and desire to:

- Formulate economic policies through empirical modeling;
- Justify the choice of certain model in economic analysis.

Pedagogy

This course is a project based course where the students registered for the course independently or in a group of two would have to identify a problem, data sources, data with the support of the instructor. Once identified, most part of the course application through their own identified data. Therefore, the students have to demonstrate participation and be proactive to gain most out of this course. Some of the neatly done project works can be presented in the conference and/or ASB working paper and/or terminal publication. Some students, if they wish, can extend the work to Master's level dissertation.

LEARNING OUTCOMES

Upon completion of this course, students will be able to complete the following key tasks:

- Conduct preliminary analysis of economic and financial data;
- Construct economic models (cross-sectional or time-series);
- Run linear regressions, logistic regressions;
- Perform statistics tests to check the robustness of econometric models;
- Interpret regression results;
- Make statistical inferences.

COURSE DESCRIPTION

Course Description: This course is concerned with the basic econometric tools that are indispensable for analysing cross section and time series data in economics, business, finance and international finance. It deals with theoretical concepts and empirical applications. It offers students hands-on experience in problem-solving.

REQUIRED COURSE MATERIALS AND READINGS

Recommended/required text(s)

Gujarati, DN et al *Basic Econometrics*, , Tata McGraw-Hill, India, recent edition

(**NB:** the bookshop may offer a copy of the book with Eviews 4.1 CDs. Earlier editions of the book were authored by DN Gujarati alone. Students may read relevant sections of the book to help understand the lectures)

Software requirements

Any software dealing with Econometric tools preferably SPSS, Stata or Minitab

Reference material drawn by the instructor from other sources will be communicated at the appropriate time.

OPTIONAL COURSE MATERIALS & READINGS (CASES, ARTICLES, REPORTS ETC)

EVALUATION CRITERIA

Components	Weightage (%)
Class Participation and homework	10
Class Presentations (or work in progress in term paper)	20
Term Paper (leading to presentation in a conference)	30
End term Examination	40
Total	100%

ACADEMIC HONESTY

Academic honesty is paramount. Plagiarism is the use of another person’s words without proper citation. Because the writer represents these words as his or her own, plagiarism is the academic equivalent of theft. Plagiarism will not be tolerated in this class or at University. In accordance with the University Code of Academic Misconduct, plagiarism in any form will result in an “F” for this course and possible expulsion from the University. Cheating on exams carries similar penalties. If you have any doubt about the possibility of plagiarism in your work, see me before submitting it. All your term papers would go through similarity test using turn-it-in.

- Written Work:** All written work for this class should be typed and grammatically and mathematically correct.
- Attendance:** Attendance is expected. In the case of absence, you are responsible for all work assigned or due. Anyone who plans to miss a class should provide assignments prior to class. Students with less than 80% attendance will not be graded for the course.
- Examination and Assignment Submission Policy:** Students are expected to take the examinations and submit assignments as per the predetermined schedule. Missed examinations will never be given, unless there are convincing reasons like medical problem and participation in a University sponsored activity.

DETAILS OF SESSION: TENTATIVE COURSE SCHEDULE

WEEK	SESSION No.	TOPICS TO BE COVERED	ASSIGNED READING, CASE DISCUSSION, ASSIGNMENTS
1	1&2	Introduction to business econometrics Revision of basic statistical terms	Gujarati: Introduction Gujarati: Appendix A
1	3&4	Simple Linear Regression Models (SLRMs) I Estimators and their properties	Gujarati: Chapters 2-3
1	5&6	Simple Linear Regression Models (SLRMs) I Goodness of fit and confidence intervals	Gujarati: Chapters 3-5
2	7&8	Simple Linear Regression Models (SLRMs) I Hypothesis testing and ANOVA table	Gujarati: Chapter 5
2	9&10	Simple Linear Regression Models (SLRMs) I Application of regression analysis Special topics in econometrics	Gujarati: Chapters 5-6

During the above sessions the Students are expected to ready with a research problem, collected desirable (preferably secondary) data, have workable hypothesis and have additional journal article to develop their argument.

ECONOMETRICS COURSE OUTLINE

YEAR: 2017 TRIMESTER: IV

3	11&12	Introduction to Multiple Linear Regression Models (MLRMs) Estimators and their properties	Gujarati: Chapter 7
3	13&14	Hypothesis Tests for MLRMs	Gujarati: Chapter 8
4	15& 16	Multicollinearity	Gujarati: Chapter 10
4	17&18	Heteroscedasticity	Gujarati : Chapter 11
5	19&20	Autocorrelation	Gujarati : Chapter 12
5,6	21 to23	Choice of model, Dummy variables, Panel data analysis	Gujarati: Chapters 9 and 15
7	24-25	Introduction and application of limited dependent variable model	Gujarati: Chapters 9 and 15, reading materials developed by Prof. S N Gajanan
7	26	Introduction to time-series analysis	Gujarati: Chapters 21and 22

Revision and End Term Exam

**Note: If required, changes can be done at later stage,

Along with the teaching of specific chapters, the instructor will engage you in discussing the research project you are working.

** 1 Session= 75 Min. (1.15hr)

ANY OTHER SPECIFIC RULES

Grading: As per the University Policy.

Tentative Projects:

These projects will be assigned to students who have not identified an area of interest on their own

1. Solid Waste Management across countries: Testing of Kuznets Hypothesis or EKC
2. Factors influencing solid waste generations: A study of major cities in India
3. Odds explaining incidents of Malnutrition in India: An analysis based on NFHS data
4. Factors explaining Infant Mortality: An analysis based on NFHS data
5. Role of retail banking on explaining profitability of Indian Banks: A Panel data analysis
6. A time-series Analysis of Fish Production, Consumption and Export: Study of India

About the Instructor:



Dr. Amalendu Jyotishi is Professor at School of Business, Amrita University. He is PhD in Economics from Institute for Social and Economic Change (ISEC), Bangalore where he worked on the ecological economic issues of swidden agricultural systems. He received 'VKRV Rao Memorial best PhD thesis award' from his research. Prior to joining Amrita University, he has worked in Ohio University-Christ College Academy (OUCC) and in Gujarat Institute of Development Research (GIDR). His research focus is in the area of institutional economics issues relating to natural resources on the one hand and entrepreneurship-innovation-small business on the other. In recent past he has been working on the issues relating to informal gold mining, fisheries supply chain, and innovation in Information Technology business. He has published his

research ideas in journals, books, edited volumes, proceedings and working papers. Besides, he has presented several papers in International and National level conferences and has been acting as reviewer for several acclaimed journals in the areas of economics, management and other social sciences. He is one of the core research members of 'Asian Initiative on Legal Pluralism' and was the coordinator of the group during 2012-2015. Dr. Jyotishi has collaborated in research projects supported by organizations like Netherlands Science Foundation (NWO), Swedish International Development Agency (SIDA), World Bank, International Water Management Institute (IWMI), Oxfam (GB) Trust, Aga Khan Rural Support Program (India), South Asian Network for Development and Environmental Economics (SANDEE), Australian Research Council (ARC) and Sir Ratan Tata Trust.